ROLE OF DIAGNOSTIC LAPAROSCOPY IN PRIMARY INFERTILITY AND PRIMARY AMENORRHOEA

THESIS FOR

MASTER OF SURGERY

(OBSTETRICS & GYNAECOLOGY)

M.L.B. MEDICAL COLLEGE

BUNDELKHAND UNIVERSITY, JHANSI
(U.P.)

2003

PREETI

DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

M.L.B. MEDICAL COLLEGE, JHANSI (U.P.)

Certificate

This is to certify that the work entitled *"Role of diagnostic laparoscopy in primary Infertility and primary Amenorrhoea"* has been carried out by **Dr. Preeti Tewari** in the department of Obstetrics and Gynaecology, M.L.B. Medical College, Jhansi, University of Bundelkhand (U.P.)

It is further certified that the candidate has fulfilled the condition of submission of the thesis for M.S. (Obstetrics and Gynaecology) Examination 2003.

Dated : 26 April 2003

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Last but not least I wish to express my sincere gratitude to my patients whose co-operation is an essential part of any study.

With this I humbly submit this work as a tentative step in progress of laparoscopy.

Preeti Tewari

Dated : 26 April 2003 **Dr. Preeti Tewari**

INTRODUCTION

Introduction :-

The difference in achieving a precise diagnosis of many gynaecological disorders is an intriguing problem of gynaecologist such as primary infertility and primary Amenorrhoea.

Primary Infertility :-

It is defined as inability of couple to achieve pregnancy within one year of defined time of unprotected intercourse with adequate coitus. In couples who report adequate coitus without contraception, pregnancy success can be claimed if 55% of women become pregnant in 1 month & 80% in 6 months or 90% in year infertility is termed primary if conception never occurred, secondary if patient fails to conceive after having produced a child or had undoubted miscarriage. Approximately 10% of married couples of child-bearing age in this country have difficulty in achieving pregnancy.

Both partners in relationship contribute to potential fertility & both may be sub fertile.

The Relative prevalence of Etiologies of Infertility: -

Male factors – 25 – 40%

Both Partners – 10%

Female Factors – 40 – 55%

Unexplained Infertility – 10%

Basic factors in Female fertility: –

Women must produce a normal fertilizable ovum which enters the uterine tubes within a few hours after extrusion from ovary to be fertilized resulting conceptus must move into the uterus become implanted in an adequately developed endometrium & there undergo normal development.

Infertility in females: –

Infertility in female is caused by various factors.

To determine the causes of sterility or impaired fertility one must visualize the process of reproduction from gametogenesis to nidation following may be causal factors:

1. *Psychogenic factors* in women notably aversion to coitus.
2. *Coital Errors* in delivery or reception of sperm e.g. premature ejaculation relationship to ovulation penile inadequacies.
3. *Vuval factors* - Vulvitis due to diabetes mellitus.
4. *Vaginal pathologies*
    - Gynatresia.
    - Imperforate hymen
    - Vaginitis whether Candidal Trichomonal or nonspecific often effect sperm adversely.
5. *Cervical pathologies* - cervical factors is the cause of infertility in not more than 5% cases.

- Congenital obstruction
- Tumours e.g. polyp
- Cervicitis
- Displacement of Cx
- Scanty cervical mucus may be prior due to psychogenic or prior conization & cauterization.

6. *Uterine & Endometrial factors* are responsible for cases of Infertility.
    - Congenital Anomalies – Bicornuate uterus, subseptate uterus, septate uterus.
    - Uterine lesion – polyp, fibromyoma, Intrauterine, adhesions (Asherman's Syndrome), Ch pelvic inflammation due to post partum or post abortal Gonorrhea & rarely tuberculosis.
7. *Tubal & Peritoneal factors* – they are responsible for 30 – 40% cases of female infertility.
    - Tubal patency defects or motility defects.
    - Damage or obstruction of fallopian tubes usually associated with previous pelvic inflammatory disease or previous pelvic or tubal surgery the risk of infertility after a single bout of PID is high the incidence of tubal infertility has been reported to be 12%, 23% &

54% after 1, 2 & 3 episodes of P.I.D. respectively.

- Peritubal adhesion.
- Destruction of fimbria

8. *Ovarian factors:* They contribute about 25% cases of female infertility.
    - Disorders of ovulation – Complete absence of ovulation, infrequent ovulation.
    - Ovarian dysgenesis (Turner's Syndrome)
    - Infections
    - Ovarian tumours (Follicular or lutcal)
    - Chocolate cyst due to Endometriosis
    - Polycystic ovarian disease.
9. Disease of hypothalamus pituitary gland, thyroid disease, adrenal disorders & hyper androgenic oligo ovulation.
10. *Immunological & psychosexual factors* are responsible for 1% case of Infertility.

Primary Amenorrhoea: –

Defined as absence of menstruation it is symptoms & not a disease it may be either primary or secondary.

Primary Amenorrhoea: It is absence of mesus by 16 yrs. Of age in presence of secondary sexual character or by 14 yrs. In absence of secondary sexual character Amenorrhoea may be physiological & pathalogical.

Causes of primary Amenorrhoea:

Approximately 30% of patients with primary Amenorrhoea have an associated genetic abnormality

Amenorrhoea associated with lack of secondary sexual character –

Abnormal physical Examination -

- 5 α Reductase deficiency in XY individuals.
- 17 - 20 desmolase deficiency in XY individuals.
- 17 α hydroxylase deficiency in XY individuals.

Hypergonadotropic hypoganadism

- Gonadal dysgenesis (Turner's syndrome)
- Pure gonadal dysgenesis
- Partial deletion of x-chromosome
- Sex chromosome mosaicism
- Environmental & therapeutic ovarian toxins.
- 17 α hydroxylase deficiency in XY individuals
- Others

Hypogonadotropic hypogonadism

- Physiological Delay
- Kallman's syndrome
- Central nervous system tumours
- Hypothalmic pituitory dysfunction.

Amenorrhoea with secondary sexual characteristics & Anatomic abnormalities -

- Mullerian anomalies
- Imperforate hymen
- Transverse vaginal septum
- Mayer – Rokitansky Kuster – Hauser syndrome
- Androgen insensitivity
- True hermaphrodites
- Asherman's syndrome Secondary to prior uterine or cervical surgery
- Curettage specially postpartum
- Cone biopsy
- Loop Electro Excision procedure

Secondary to infections

- Pelvic inflammatory disease
- IUD – Related
- Tuberculosis
- Schistosomiasis

Physiological Amenorrhoea – Prepubertal, during pregnancy lactation, post menopausal.

Diagnostic Laparoscopy: -

Provides a direct visual access to inner pelvic anatomy without restoring to major abdominal surgery physiology of the ovaries, fallopian tubes & uterus can now be studied in more details & fresh knowledge may be revealed.

Direct visualization of pelvic organs can greatly improve the accuracy of diagnosis when surgical intervention is undesirable and when observation or empirical therapy is conservative or ineffective laparoscopy has shown period of great Enthusiasm followed by condemnation. But today the availability of Excellent instrument. Safe source of gas & superb Anaesthesia all have pointed safety factors.

In this Era of rising medical cost where Economy has assumed a major role, diagnostic laparoscopy could provide the gynaecologist an economy with a shortened hospital stay. The critical factors on Evaluation of diagnostic laparoscopy is how far its can contribute to the management of the patients. Laparoscopy has precisely fulfilled the goals set up by its developers & has revolutionized the practice of gynaecology. Physicians have grasped the concept that the laparoscopy provides a picture window to what could only be palpated previously or seen through a large laparotomy incision. Patients have benefited from the rapid diagnosis & recovery time. Minimal cosmetic injury greatly reduced costs, elimination of sexual restrictions avoidance of risks of

major surgery & many fewer delays in treatment. Laparoscopy has eliminated the risk and frustration of clinical observation & has made possible immediate definitive therapy for infertility & primary amenorrhoea thus laparoscopy is very evaluating tool in primary infertility & primary Amenorrhoea

AIMS OF STUDY

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1. To find out causes of infertility in otherwise tested normal women.
2. To evaluate tubal morphology & patency by dye testing.
3. To avoid unnecessary laparotomy.
4. To investigate & find out cause of primary amennorhoea.
5. To find out cause of primary infertility & primary Amenorrhoea by using of laparoscopic as diagnostic tool.

REVIEW OF LITERATURE

REVIEW OF LITERATURE

The birth of modern Endoscopy came with Bozzani (1805) who invented a very complex apparatus which he called 'Lictit Heiter', for the first time the human urethra was visualized in a living subject using a candle as the light source. Desormeaux (1853) made the first serviceable endoscope. Ott (1901, 1902, 1903) was the first to observe peritoneal pelvic organs endoscopically in this ventroscopy procedure he inspected the abdomen cavity with the help of a head mirror & a speculum introduced through a small anterior abdominal wall incision. Kelling (1901) produced pneumoperitoneum in living dogs through a small needle in the anterior abdominal wall to facilitate the performance of coelioscopy with a Nitze cystoscopy.

Jacobeus (1910) (1912) made the first clinical application of the method exploring both the thorax & abdomen naming the procedures 'thoracoscopy & laparoscopy' respectively.

Jacobeus & Kelling are known as father of laparoscopy.

Bernnhein (1911) described a method of abdominal exploration by means of proctoscope inserted through a short incision in the epigastrium.

Nordentoeft C. (1912) was the first to observe the female genital organs after gaseous distension of abdomen & adoption of trendelenberg position.

Renon (1913) in paris published a paper on the technique & indication for laparoscopy Ist English paper, appeared in 1925 published by Rendt Short on his work using a cystoscopy to visualize the abdominal viscera through a small abdominal incision.

Kalk (1928) started working with laparoscopic & produced a brilliant instrument he made possible to study & recognize the pathology of internal organs & to make accurate diagnosis.

Ruddock (1937) introduced a biopsy forceps with diathermy coagulation.

Hope (1937) emphasized the value of laparoscopy in the differential diagnosis of Ectopic pregnancy.

Te Linde (1939) attempted Endoscopy of the pelvic organs by vaginal route but abandoned the method because of difficulties due to the presence of small intestine behind the uterus.

Decker (1944) by adoption of the genupectoral position & the induction of pneumoperitoneum created by negative pressure of the position overcame the difficulties expenced by Te Linde & named the procedure culdoscopy, Palmer (1944) did gynaecolgical coelioscopy using the transparietal route in trendelburg position after obtaining gaseous distention both Decker & Palmer have made notable & extensive contributions to the study of sterility in particular & to the other complementary diagnostic & therapeutic techniques.

Fouresteir, Glandu & Vulmiere (1952) developed a method of transmitting an Intense light along a quartz rod from the proximal to distal end of the telescope this removed the dangers of accident due to Electrical burns & allowed such Intense light so that photographs could be taken.

Frangenhein (Since (1957) has published many excellent treaties on laparoscopy his personal experience included 1850 peritoneoscopies & culdoscopies performed without serious complications. Frangenhein stressed general anaesthesia and extreme caution in inducing a pneumoperitoneum & avoidance of puncture through previous laparotomy scar.

Steptoe (1960) became interested in laparoscopy & culdoscopy in relation to the unsolved problem of sterility & concluded that in properly selected cases & particularly in field of sterility investigations laparoscopy can be the most important & indeed the only method of accurately assessing certain factors, first international symposium was held in Italy in 1964 & the first text book on laparoscopy was written by Steptoe in English.

Fear (1968) presented a series on 134 patients on which laparoscopy was performed for various indications.

Laparoscopy in Female Infertility–

Cohen R. Melvin (1968) compared peritoneoscopy v/s culdoscopy & concluded that peritoneoscopy afforded a more detailed & close inspection of the complete

fallopian tubes, ovaries the uterine ligaments & cul de sac & all surfaces of the uterus. He listed the indications for culdoscopy & peritonecoscopy.

Coltart T.M. (1970) reported the findings at laparoscopy in combination with the installation of dye through the cervix in 36 patients with a diagnosis of bilateral tubal occlusion on HSG they found that fimbrial occlusion was associated with absence of spill in only 21%.

Duignan N. M., Jordan J. A., Edwards Logan R. (1972), performed laparoscopy on 520 patients of primary infertility. 62.5% cases showed no abnormalities whereas 37.5% cases revealed some pathology. They also concluded that laparoscopy provided a more accurate assessment to tubal patnecy & function than HSG.

Maathius J. B, Horbach GM & Van Hall E. V. (1972), compared the findings of HSG with laparoscopy in 207 cases of infertility for at least 2 years duration. In 46% cases, both methods showed similar results. In 38 of the patients, in whom abnormalities were detected by both procedures, those abnormal findings were found to be non identical. 18% patients with normal HSG were found by laparoscopy to have pathologic conditions seriously affecting tubal function of which peritubal adhesions constituted the majority.

Varma T. R, Harry Murphy (1978) studied 98 cases of primary infertility & 76 cases of secondary infertility by

laparoscopy & found laparoscopy to be very useful in the investigation of infertility. They said that it provided a more accurate assessment of tubal patency & function that did hysterosalpingography.

Hulka (1962) reported a classification system for adnexal adhesions employing HSG & laparoscopy prior to planned repair. Stage of adnexal disease included extent of adhesions, nature of adhesions, fimbrial patency & Isthmic patency. In extent of adhesion stage I is over 50% of the ovarian surface visible. Stage II is less than 50% of the ovarian surface visible. In nature of adhesion type A is filmy, avascular adhesions with good potential organ separation. Type-B is dense, vascular adhesions with minimal potential organ separation.

Verma TR, Thankam & Harry Murphy (1978) performed diagnostic laparoscopic examination in 530 patients mainly for obscure pelvic pain & infertility. They found that as compared to HSG, laparoscopy provided a more accurate assessment of tubal patency & function.

Ansari A. H. (1979) emphasized that, whereas laparoscopy is ultimat procedure for eassessment of peritubal & fimbrial pathology, salpingography is equally indispensable for evaluation of tubal lumen & the uterine cavity.

Rajan R., Joseph K. C., K. Ambika Devi (1981) reviewed 645 HSG'S performed to assess the tubal function in infertile women. The purpose was to detail the

technique of HSG, results of the study & the type of complications encountered.

Rajan R, Girija Leela, V. S. Jetha, Kumar S., Sreedevi NS, L Ajitha Kumari K., Molkutty T & Prabha Kumari C (1984) concomitant with diagnostic procedures they carried out certain operative procedure which could be diagnostic as well as therapeutic & presented their experience with the different types of operative laparoscopic procedures. They felt that the diagnostic accuracy & decisions for treatment achieved a high standard by employing HSG & laparoscopy as complementary procedures, (Rajan & Joseph 1962)

Prof. Mitra R, Agarwal Usha, Srivastava Manjul (1986), studied 92 cases by hysterosalpingography & laparoscopy & found agreement between findings of the two procedure in 61.53% cases. Difference in the findings of the two procedures was noted in 10 (19.26%) cases. They concluded that HSG findings were inaccurate for the diagnosis of peritubal & periovarian adhesions & other pelvic pathology but HSG is useful for luminal study of fallopian tubes & ovary. They suggested that laparoscopy & HSG should be considered supplementary procedures.

Desmukh GA, Vijay Kar I.V, Singhal AB, Tilwani S. P. (1986) investigated 431 case of sterility by laparoscopy & emphasized that tubal factor could not be completely studied by laparoscopy alone, but in occasional cases

required other investigations like HSG & cervical smear culture.

Dastidar Ghosh S., Chattopadhyay S & Chakravorty BM (1986) graded endometriosis based on the classification suggested by Accosta et al & observed that the highest no. of cases belonged to moderate grade. Infertility in these cases is explained by the extensive tubal & ovarian distortions.

Mage G., Conis M & Pouly J. R. (1986) used the carbon dioxide laser via a second puncture probe during laparoscopy to vaporise endometriotic implants on uterus, bladder & uterosacral ligaments, to divide dense adhesions between ampulla of tube, ovary & over the surface of the ovary & to perform salpingostomy of a hydrosalpix.

Jayakrishnan K. (1989) performed diagnostic laparoscopy on 362 patients over a 4-year period & assessed laparoscopically patients with long standing infertility, those with suspected pelvic pathology and patients with abnormal HSG findings. He concluded that any evaluation of laparoscopy in cases of infertility must be based on comparison with HSG.

Amarnath, G. Bhide (1990) studied 410 cases of infertility over a 8-year period by laparoscopy & concluded that laparoscopy helps to reveal many fine etiological factors contributing to infertility, in bringing to

light multiple factors acting in consonance & leading to infertility.

Bose Fusey, Deshmukh (1990) correlated findings on HSG & laparoscopy in the investigation of infertility in female partner. They found false negative rate was 10.76%, false positive rate was 26.15% & HSG & laparoscopy were in complete agreement in 64% cases.

Amenorrhoea-

Steptoe (1965) could establish a diagnosis in all the 22 cases of Amenorrhoea by laparoscopy.

Fear (1968) studied 6 patient of amenorrhoea both primary & secondary by laparoscopy. He found hypogonadotrophic ovaries in 3 cases, normal pelvic organs in 1 & testicular feminization syndrome in 1 case. One case with congenital absence of cervix, uterus & proximal position of the tubes were found to have distal portions of the tubes and both ovaries normal on laparoscopy.

Duignan et al (1972) performed 17 laparoscopies to assess the patients of primary amenorrhoea & found that patients fell into three distinct groups, gonadal dysgenesis, anatomic anomaly & unstimulated ovaries.

Sykes et al (1972) emphasized the value of ovarian biopsy in assessing the patients of menstrual dysfunction. In a study of 70 ovarian biopsy taken on laparoscopy, they established a correlation between the

state of follicular apparatus & the subsequent clinical progress.

Semchyshyn et al (1976) carried out laparoscopic evaluation of both primary & secondary amenorrhoea. Of the 56 cases of secondary amenorrhoea, 45 were found to have normal organs. While polycystic ovaries were diagnosed in 11 case only 2 cases of primary amenorrhoea were found to have normal pelvic organs while gonadal dysgenesis was present in 6 cases.

Gupta Bina & Taly Anju (1986) studied 100 cases of amenorrhoea which included 48 cases of primary & 52 cases of secondary amenorrhoea. In 55% of the cases of primary amenorrhoea, incomplete development of mullerian tract was the main pathology detected.

Malati L., Sholapurkar (1986) studied 20 cases of primary Amenorrhoea & found ovarian or mullerian development defect to be commonest cause.

Prabhu, Sivaraman, Srinivasan & Rajarathnam (1988) out of 39 patients with primary amenorrhoea subjected to laparoscopy. Mullerian agenesis was seen in 48.7%, streak ovaries in 25.7%, polycystic ovaries in 7.7% & pelvic tuberculosis in 5%

K. C. De & N Biswas (1989) performed diagnostic laparoscopy in 173 cases of primary amenorrhoea & found mullerian abnormality to be the commonest cause (76.30%). In gonadal abnormalities streak gonad was single most common cause i.e. 13.872% & unilateral &

bilateral agenesis combinedly noted in 19.075%. Streak ovary was most commonly associated with aplastic uterus (58.333%).

Chakraborti, Kole (1990) did laparoscopy in 67 cases of primary Amenorrhoea & found mullerian agenesis in 18 (27.0%) cases & gonadal dysgenesis in 24 (35.8%) cases. In patients with developmental abnormalities, degree of mullerian agenesis was recorded by them.

MATERIAL & METHODS

MATERIAL AND METHODS

The patients for the present study were selected from gynaecological out patients department & admitted in indoor of the department of obstetrics & gynaecology of Maharani Laxmi Bai Medical College, Hospital Jhansi.

Patients selected with age group 20 – 40 years.

Patients were divided in two major groups.

- Primary Infertility
- Primary Amenorrhoea

Patients detailed history was taken & general systemic & local gynaecological examination of all the patients who were selected for this study was carried out. The necessary investigations were done to ascertain the fitness for operation.

Patient is prepared for general Anaesthesia and necessary premedication is given after thorough pre-anaesthetic check-up. Patients will be subjected to routine & special investigations as and when required. Patients contraindicated for laparoscopy shall be excluded.

Essential investigations before diagnostic laparoscopy-

Diagnostic laparoscopy is performed under general Anaesthesia though there are few advocate of spinal & epidural Anaesthesia for this procedures but general Anaesthesia is best for diagnostic laparoscopy. All the

patients undergoing diagnostic laparoscopy should be investigated properly.

- Haemoglobin
- TLC
- DLC
- ESR
- Blood urea
- Random Blood Sugar
- Urine routine, microscopic examination
- ECG
- Chest x-ray
- Husband seminogram
- Ovulation profile: -

- Basal body temperature
- Midlutcal Serum
- Luteinizing Hormone montoring
- Endometrial biopsy
- Ultrasound

Time of laparoscopy –

Laparoscopy was performed in post menstrual phase under general anaesthesia.

Procedure of diagnostic laparoscopy –

In the infertile couple a good history, physical examination basic endocrinological Investigations & semen analysis initially done.

Ovulation is determined by BBT chart, cervical mucus studies, ultrasound & plasma progesterone level. If conception does not occur after 3-4 ovulatory cycles & a positive post coital test laparoscopy is scheduled laparoscopy evaluates the uterus, tubes & ovaries, peritoneum. Most gynaecologists will schedule the diagnostic laparoscopy on appropriate time.

Equipment –

1. *Telescopes* –

Laparoscopes have a special rod lens. Optic system with built in fibroglass bundles for light transmission. These bundles pass light along the laparoscope to the distal lens. This gives a very bright light. The laparoscopes are usually 5 – 10 mm in diameter, wide viewing angle of 0° to 50° or (180° to 130°) giving a field to view from 65° to 90°. Operating laparoscopes are 10-12 mm with an operative channel of 5 to 7 mm.

Verres Needle :-

This is a double cannula needle with a blunt cannula movable within an outer sharp cannula. The blunt cannula protudes beyond the sharp outer cannula to reduce the chance of laceration of the abdominal viscera. During insertion through the tough abdominal fascia the inner cannula retracts.

Trocar Cannula –

Pyramidal tipped trocar with trocar cannula sleeve having trumpet valve was used.

Short self retaining, trocar sleeves with a screw grid to prevent retraction has been developed by Harry Reich & Fran NC Glynn. It is not presently available, but should be in the future. They are of different size for different telescope trumpet valve, flap valve, magnetic ball valve etc. Trocar tip may be conical or pyramidal. Metal cannula are preferred.

Accessory Instruments –

Several accessories are used; grasping forceps, biopsy forceps, scissors, probe suction, cannula ring & clip applicators, bipolar Instruments Etc. They may be passed through a second puncture or through the operating channel of the operating laparoscope.

Light Source & cable –

This is combined system providing gas & illumination output suitable for laparoscopy. Each unit consists of a gas insufflator for establishing & maintaining pneumoperitoneum & a dual fibre optic light source for intra abdominal illumination.

A technique for inducing pneumoperitoneum with room air by means of an adapted laerdal resuscitation bag has been devised. Cable helped to transmit the light from from light source to telescope.

Pneumoperitoneum –

Pneumoperitoneum is necessary to allow visualization of pelvic organs this can be achieved by following

- Carbon dioxide apparatus which delivers carbon dioxide @ 1liter per minute at a pressure not exceeding 15m.m. Hg.
- Nitrous oxide through Boyle's machine
- Air using a sigmoidoscopy bulb or electrically operated pneumoappratus.
- Electronic CO2 pneumo apparatus with high flow for operative laparoscopy

Uterine manipulators –

A Uterine manipulator was used which allowed the manipulation of uterus manually during procedure.

Video Camera –

This is necessary for operative laparoscopy.

Sterilization of the laparoscope –

Though the safest & most effective method for sterilizing endoscopic equipment is that of gas autoclave but for rapid sterlization instruments are soaked in a solution of activated dialdehyde (cidex) for 10-20 minutes.

After disinfection the instruments are thoroughly rinsed in sterile water & air dried.

Procedure of diagnostic laparoscopy –

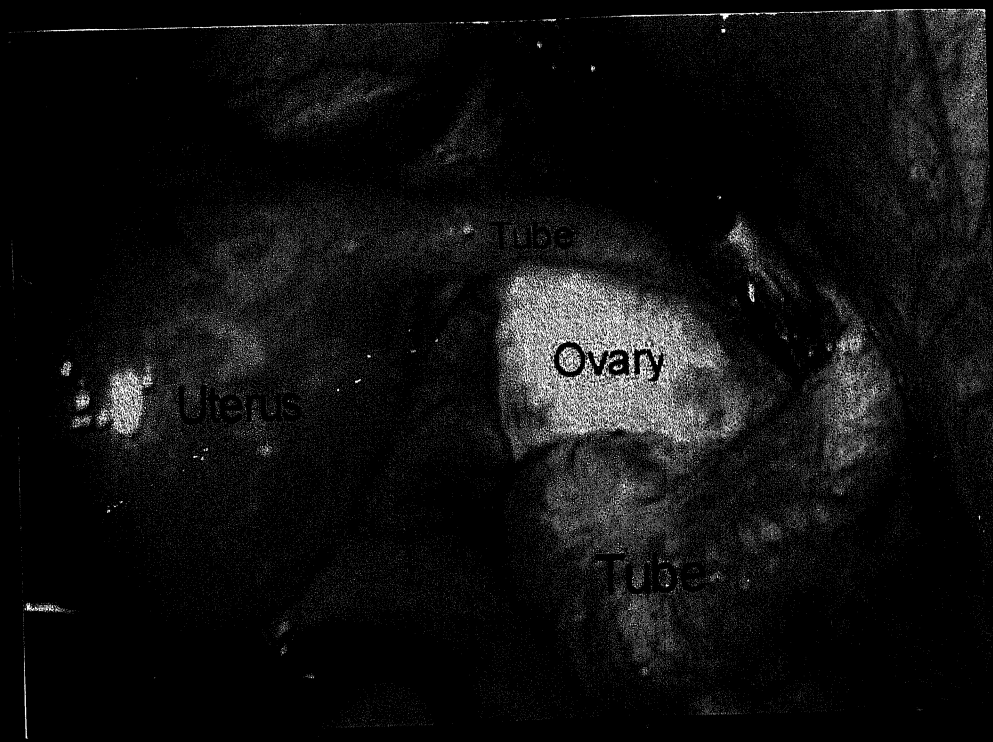
The patient was brought to the operation theatre empty stomach & asked to void urine just before coming to operation table. Patient was laid on the operation table and intra venous line was started. General anaesthesia was given, after that lithotomy position made, abdomen & perineum scrubbed with iodine and spirit and draped so that both the areas were in same field.

Bimanual examination performed & sim's speculum placed gently in the vagina, anterior lip of cervix was held with volsellum, uterine manipulator was inserted into uterine cavity.

On abdomen 2mm nick infraumblically was given, after confirming that verres needle is patent, the needle was then inserted into peritoneal cavity with axis of pressure directed toward sacral hollow. Keeping the skin lifted the tubing from insufflator was then attached to the verres needle. The Insufflator used carbon dioxide gas from external supply, the high select regulator output pressure was set at 30-32 mm Hg which permitted a flow rate of 1 liter of gas in 50 – 60 seconds. The low select regulator maintained intra abdominal pressure at about 12 m.m. Hg. Insufflation flow rate was kept 1 lit/min. The thin, nulliparous, atheletic patient with strong abdominal musculature required 1-2 liters of gas. While moderately obese parous patient with relaxed

Laparoscopic Instruments

NORMAL LAPAROSCOPIC VIEW OF PELVIS



LAPAROSCOPIC VIEW SHOWING TUBAL DILATATION

abdominal wall required 5-6 liter to distend to an elevated pressure. Intra abdominal pressure was kept between 15 to 20 mm Hg.

The gas was stopped and the needle removed after sufficient pneumoperitoneum was obtained. Trendenlenburg position of 30° was given. The 2 mm incision was extended to 1 cm and the laparoscopic trocar and cannula was then inserted into the peritoneal cavity. Keeping the abdominal skin lifted. The traocar with cannula was first tunnelled in the skin & then advanced in the peritoneal cavity with a steady & firm pressure.

After removing the trocar the laparoscope was introduced through the same cannula. Light source was connected to the laparoscope. Each light source lamp is an EJM Tungsten Halogen 1 amp 21 vac, 150 Watts. The gas tubing is also connected to the sleeve for automatic/intermittent insufflation.

Now inspection of pelvic organs was done. To overcome the difficulty of lateral distortion, the inspection of the pelvic organs was carried out keeping the laparoscope in central position as far as possible. Uterus is moved with help of uterine manipulators to inspect pelvic organs properly.

Chromotubation –

The procedure was carried out in all cases of infertility to test the patency of tubes under laparoscopic vision. For this 10-15 ml of 0.5% autoclaved methylene blue solution was injected through a cannula in the uterine cavity and the patency of the tubes was tested by observing the dye spill through the fimbrial ends of tubes under direct vision of laparoscope. By seeing spill of dye we can test patency of tubes.

Termination of laparoscopy –

After examination was completed the laparoscope was withdrawn, gas was allowed to escape from the peritoneal cavity through the cannula, as much as possible, by pressing on the abdominal wall. When the abdomen was flat & the patient was out of the trendenlenburg position the outer sleeve was removed after inserting the trocar. Catgut stitch was applied to close the skin wound & dressing done.

Post-operative care –

The patient was given appropriate antibiotic for 5 days prophylactically after the laparoscopic procedure she was discharged after 24 hrs. of the procedure.

Follow up-

The patient was asked to report after 7 days for follow up & for any other complaints.

OBSERVATION

OBSERVATION

Table – 1

Total number of cases for diagnostic laparoscopy – 50.

S. No.	Diagnosis	Total No. of Cases
1.	Primary Infertility	40
2.	Primary Amenorrhoea	10

Table-1. Shows that total number of patients selected were 50. In this, patients of primary infertility were 40 & patients of primary amenorrhoea were 10.

Table – 2

Distribution of cases of primary Infertility according to age.

S. No.	Age in years	No. of cases	Percentage
1.	21-25	18	45%
2.	26-30	14	35%
3.	31-35	8	20%

Table-2. Shows the distribution of cases of infertility according to age in years it depicts that the maximum number of patients in primary infertility cases were in age group. 21-25 years, they constituted 45% of total patient studied in primary infertility group and 2nd most common groups of patients were in age group 26-30 years, they constituted 35% of total patients studied. There was no case above the age of 35 years the youngest patient in the present study was of 21 years.

Bar Diagram

Distribution of cases of infertility according to the age of patients

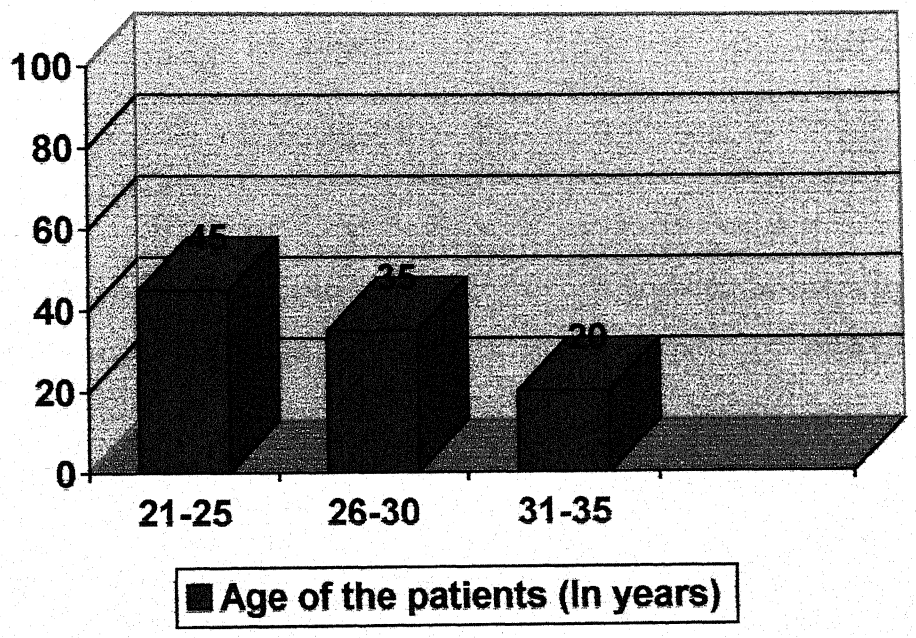


Table – 3

Distribution of cases according to years of Infertility.

S. No.	Duration of Infertility	No. of cases	Percentage
1.	1-5 years	18	45%
2.	6 – 10 years	14	35%
3.	11 – 15 years	5	12.5%
4.	16 – 20 years	3	7.5%

Table – 3 Shows distribution of primary infertility according to duration of infertility this shows 18 cases of primary infertility had duration of infertility ranging from 1- 5 years this gives an incidence of 45% of primary infertility patients who had a period of infertility of less than 5 yrs duration, 14 cases of primary infertility had duration 6 – 10 years constituted 35% of total patients, 5 cases of primary infertility had duration 11-15% which was 12.5% of total patients studied only 3 patients had duration 16-20 yrs. Which was 7.5% of primary infertility patients.

Bar Diagram

Distribution of cases according to duration of infertility.

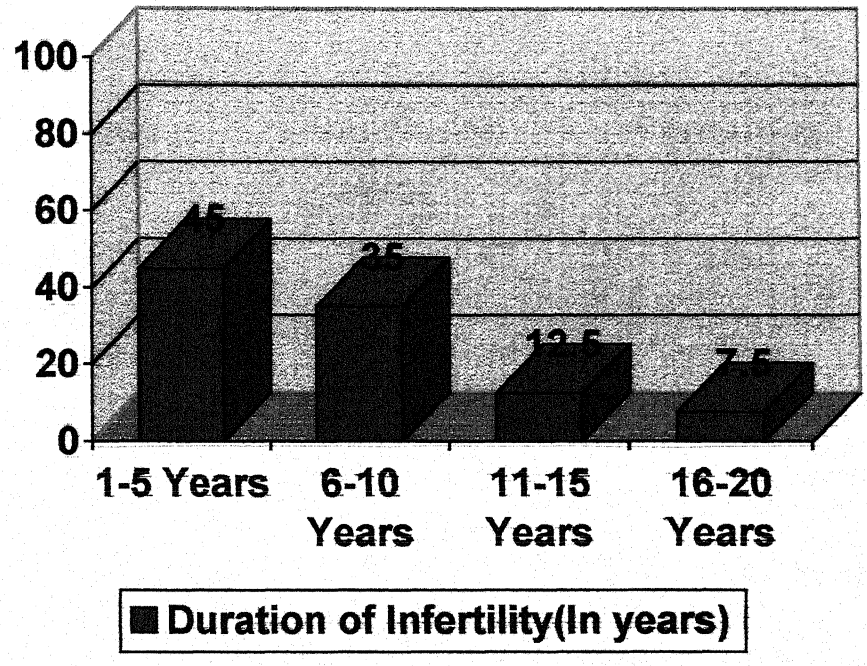


Table – 4

Distribution of cases of primary infertility according to laparoscopic findings.

Total number of Infertility case – 40

Laparoscopic findings	Total No. of cases	Percentage
Normal	12	30%
Abnormal	28	70%

Table-4. Shows that normal pelvic findings were seen in 12 cases of infertility by laparoscopy it means 30% of patients of primary infertility had normal organs No abnormality detected. Laparoscopy revealed abnormal pelvic findings in 28 patients comprising 70% of primary infertility patients.

Table -5

Laparoscopic findings in cases of Infertility

Total number of Infertility cases – 40

S. No.	Findings	No. of cases	Percentage
1.	Normal pelvic organs	12	30%
2.	Tubal block with adhesions	6	15%
3.	Tubal block without adhesions	9	22.5%
4.	Tubal block with cystic ovaries	2	5%
5.	Tubal patency with cystic ovary	2	5%
6.	Tubal patency with adhesions	3	7.5%
7.	Genital tract tuberculosis	2	5%
8.	Endometriosis with uterine fibromyoma	2	5%
9.	Hypoplastic uterus	2	5%

Table – 5. Shows that in cases of primary Infertility 12 cases had normal pelvic organ that is 30% of cases of primary infertility had normal pelvic organs. Tubal block with adhesions were seen in 6 patients which constituted 15% of total patients. Tubal block without adhesions seen in 22.5% of cases. Tubal block with cystic ovaries seen in 5% cases. Tubal patency with adhesions seen in 7.5% of cases genital tract tuberculosis seen in 5% cases while Endometriosis with uterine fibromyoma constituted 5% cases of primary infertility. Hypoplastic uterus was detected in 5% cases of primary infertility.

Table – 6

Incidence of pathological findings in cases of primary infertility.

S.No.	Pathological Findings	No. of cases	Percentage
1.	Normal Organs	12	30%
2.	Tubal block	17	42.5%
3.	Adhesions	9	22.5%
4.	Uterine Fibromyoma	2	5%
5.	Endometriosis	2	5%
6.	Cystic Ovaries	4	10%
7.	Tuberculosis	2	5%
8.	Hypoplastic Uterus	2	5%

Table – 6. Show incidence of pathological findings in Infertility cases. Normal pelvic organs were found in 12 cases that is 30% of primary infertility cases. Most common pathologic finding detected to be tubal block, which was seen in 17 patients that was 42.5% of total patients studies. Pelvic adhesion were found in 9 cases, it constituted 22.5% of total cases. Cystic ovaries were found in 4 cases. Incidence counted t/b 10% of total cases. Genital tuberculosis observed in 5% of cases. Fibromyoma, Endometriosis & Hypoplastic uterus were found only in 5% each in primary infertility group.

Table – 7.

Comparison of unilateral & bilateral tubal blocks in primary infertility cases by laparoscopy.

Total number of cases of tubal block – 17

Tubal block	Total no. of cases	Percentage
Unilateral	4	23.5%
Bilateral	13	76.5%

Table-7. Shows comparative value of unilateral and Bilateral tubal blocks out of total 17 cases of tubal blocks in cases of primary infertility by means of laparoscopy unilateral block was found in 22.5% cases of primary infertility.

Bilateral Tubal block was found in 76.5% cases of primary infertility.

Table – 8

Comparison of tubal blocks in Infertility cases by HSG & laparoscopy.

Tubal patency	HSG	%	No. of cases	Percentage
Both tubes patent	20	50%	23	57.5%
Unilateral block	4	10%	4	10%
Bilateral block	16	40%	13	32.5%

Table –8. Illustrate comparative study of Infertility cases by Hysterosalpingography & laparoscopy HSG revealed, both tubes patent in 50% that is 20 cases while laparoscopy found patent tubes in 57.5% cases (23 patient). Unilateral tubal was detected by HSG & laparoscopy in 4 patient that is 10% cases. Bilateral tubal block was found by HSG in 40% case (16 patient) & by laparoscopy in 32.5% (13 patient).

Table – 9

Primary Infertility (Investigations)

Investigations	No. of cases	Percentage
Endometrial Biopsy		
- Secretary	37	92.5%
- Non Secretary	1	2.5%
- Tubercular	2	5%
HSG		
- Tubes patent	20	50%
- Unilateral block	4	10%
- Bilateral block	16	40%

Endometrial biopsy performed on 1st day of mensus while HSG performed on 8th day of menstrual.

Table – 9. Shows that in 92.5% of primary infertility the Endometrium showed secretary changes. In 2.5% it showed non-secretary changes & in 5% it showed tubercular endometritis.

In Hysterosalpingography 50% patient had both tubes patent. Unilateral block detected in 10% Bilateral block detected in 40% of cases.

Primary Amenorrhoea:

Table – 10.

Total number of cases – 10

Distribution of cases of primary Amenorrhoea according to age.

Age	No. of cases	Percentage
18 – 20 yrs	8	80%
21 – 25 yrs	2	20%

Table – 10. Shows that out of 10 cases of primary Amenorrhoea studied 80% were in between 18 – 20 yrs of age in 20% cases age was between 21 – 25%.

Biggest group by age was between 18 – 20 yrs constituted 80% of total patients.

Table – 11

Distribution of cases of primary Amenorrhoea according to secondary sex characters.

Secondary sex characters	No. of cases	Percentage
Less developed	2	20%
- Well developed	8	80%

Table – 11 Shows; Distribution of cases of primary Amenorrhoea according to secondary sex characters.

According to secondary sex characters biggest group of patients of primary Amenorrhoea were with well developed secondary sex character 80% of total cases while less developed constituted 20% of total cases.

Table – 12

Distribution of cases of Primary Amenorrhoea according to condition of vagina.

Condition of Vagina	No. of cases	Percentage
- Canalised Vagina	4	40%
- Partially canalized	5	50%
- Non canalized	1	10%

Table – 12 Shows Distribution of cases of primary Amenorrhoea while according to condition of vagina shows that biggest group were with partially canalised vagina that is 50% while canalised vagina were 40% of total cases selected for study while 10% patient were with non canalised vagina in Study group.

Table – 13.

Laparoscopic findings in cases of primary Amenorrhoea

Total numbers of case – 10.

Findings	No. of cases	Percentage
Absent or partially canalised vagina	6	60%
A- No uterus, No tubes & No ovaries tissue	3	30%
B- No uterus No tubes & ovaries tissue present	2	20%
C- Small Nodula uterus with tubes & normal ovaries tissue	1	10%

Table – 13. Shows laparoscopic findings in all 10 cases of primary Amenorrhoea studied. In 50% of cases (5 patient) No uterus, No tubes, No ovaries were present out of this 30% (3 patient) No ovaries tissue was present & in rest 20% (2 patient) ovarian tissue was present. Small nodular uterus with tubes & normal ovarian tissue was seen in 10% cases (1 patient). All these cases had absent or partially canalised vagina.

Table – 14

Canalized Vagina	4	40%
A- Normal looking pelvic organs	2	20%
B- Hypoplastic uterus with well developed tubes & ovaries	1	10%
C- Polycystic ovaries	4	10%

Table – 14 Shows; Out of 40% cases (4 patient) of having canalized vagina 20% (2 patient) revealed normal pelvic organs on laparoscopy in 10% (1 patient) there was hypoplastic uterus with well developed tubes & ovaries in rest 10% case (1 patient) Bilateral polycystic ovaries were present uterus & tubes were normal in this case.

DISCUSSION

DISCUSSION

In the present study 50 cases were selected from gynecological out patient department & admitted in the Indoor of the department of obstetrics & gynaecology of Maharani Laxmi Bai Medical College Jhansi. These patients were studied by diagnostic laparoscopy.

The study group included the cases of primary infertility & primary Amenorrhoea.

Study carried on 50 patients out of which 40 patients were of primary infertility & 10 patients were of primary Amenorrhoea.

Primary Infertility :-

Major group of patients which were studied by performing diagnostic laparoscopy were of primary infertility which become major indications of performing diagnostic laparoscopy in these patients. It was similar to the observation of Duignan. N.M.et al (1972) who performed 67.5% diagnostic laparoscopies for investigating the infertility case semchyshyn et al (1976) also reported the infertility patients formed the for most indication for diagnostic laparoscopy in their series.

Similar observation has been reported by Prabhu et al (1988) & Chakraborti, Kole (1990) the incidence of infertility as on incidence for diagnostic laparoscopy has been reported as main indication in the studies of above authors present study also supports the view.

Duignon N.M. et al (1972) in his series of 1000 cases studied 520 patients of primary infertility auth a ratio 3.4:1 Bose et al (1990) study had a ratio of 3.1:1 thus as compared to secondary infertility primary infertility constituted major group of study.

In the present study the mean age of patients of primary infertility was 26.8 years & In primary infertility group maximum number of patients were in age group 21 – 25 years.

This was parallel to observation of MC Kenna et al (1983) who found mean age of primary infertility 26 years & age range of 19 to 41 years.

Deshmukh A. G. et al (1986) found maximum number of cases of infertility were in age group of 20 to 24 years.

In primary infertility group maximum number of patients (46.67%) presented with less than 6 years of infertility & the minimum period of infertility in this group was 1 year couples were investigated after a minimum period of 1 year of infertile period.

Among the infertility cases these were 12 patients in whom no abnormal findings of the pelvic organs could be found on laparoscopy (T) this gives incidence of 30% in whom the pelvic organs were completely normal on diagnostic laparoscopy (T). This figure is comparable with pent (1972) who found normal pelvic organs in 50% of infertility cases Gupta S. et al (1984) 30%, Chakraborti &

Kole (1990) 21.4% & Bhinde A. G. (1990) who found it to be 27.80%.

70% of all the patients of infertility revealed abnormal pelvic findings on laparoscopy. Steptoe (1965) found incidence of pelvic pathology in 55 out of 74 patients of infertility investigated by laparoscopy giving on incidence of 74.3%. This incidence was found to be 40.4% in Duignan et al (1972) series , 70% in study of Gupta, S et al (1984) & 78.6% in study of Chakraborti & Kole (1990).

This large variation could be explained by the prevalence of sub clinical pelvic infection age group of patients. Type of infection whether primary or secondary socio-economic status of patients forming the study group.

Fallopian tube blockage was most common abnormal finding observed in infertility cases in our study in the present study of 40 cases of infertility chromo tubation was not done in 2 cases of primary infertility as they had genital tuberculosis. Occlusion of one or both tubes was observed in 42.5% of all infertility cases.

This is in according with the work of meathius et al (1972) who found tubal block in 28% of their cases. Moghissi & Sim (1975) who found tubal occlusion in 48% of their cases Verma et al (1978) who reported tubal

occlusion in 38.2% of secondary infertility & in 24.5% of primary infertility cases with overall incidence of 30.4% Gupta S. et al (1984) reported tubal block in 61.67% case & Bhinde A G (1990) reported it in 25.37% cases out of 17 cases of primary infertility presented with tubal block 6 had adhesion too.

Another significant finding was that Bilateral block was more common as compared to unilateral block of fallopian tube. In the present study out of 17 patients 23.55 has unilateral block & 76.5% had Bilateral block (T) similar observation were made by Duignan N M et al (1972) who found unilateral block in 42.7% & Bilateral block in 57.24% cases.

Deshmukh A. G. et al (1986) found unilateral block in 15.38% (10 patients) & Bilateral Block in 84.62% cases (55 patients) Chakraborti & Kole (1990 reported 63 cases) 77.78% of Bilateral block & (18 cases) 22.22% unilateral block.

Diagnosis of tubal block was established with precision by laparoscopy. Many tubes which were diagnosed to be blocked by hysterosalpingography have been found to be patent at laparoscopy. On hysterosalpingography it was 50% & on laparoscopy it was 57.5%. In 10% cases it was unilateral block. On HSG as well as laparoscopy. Bilateral tubal block was found in 40% case by HSG & in 32.5% by laparoscopy (T) Thus 3 patients were found to have patent tubes in laparoscopy though diagnosed blocked tubes on HSG. In one of these

3 cases HSG had revealed tuberculosis whereas on laparoscopy both tubes were normal HSG gave a false positive rate of 14.29%. The incidence of false positive results in the present study is parallel to the findings of Maathuis et al (1972) Sheth & Krishna (1979) and Bose et al (1990) who reported it to be 17%, 15% 26.25% respectively.

No case with bilateral spill on HSG was found to be occluded at laparoscopy 3 cases of peritubal adhesions with tubal patency were missed on HSG.

Pelvic adhesions were the second most common abnormality being present in 9 cases of primary Infertility with overall incidence of 22.5%. In primary infertility group tubal block accompanied adhesion in 6 cases.

Duignan (1972) reported 32.9% incidence of adhesions in secondary infertility cases as compared to 21.9% in primary Infertility group Verma et al (1978) reported a 19.4% & 34.2%. Incidence of peritubal adhesions in primary & secondary infertility cases respectively Gupta S. et al (1984) found 31.61% Incidence Bhinde A. G. (1990) reported 13.2% & Bose et al (1990) reported 28% incidence of pelvic adhesions in their study of infertility cases. In our study peritubal adhesions were commonest of all type of adhesions in one of cases of primary infertility fimbrial adhesion was laparoscopic finding. This patient with fimbrial adhesion was subjected to laparotomy & fimbrial adhesions were

broken down this patient did conceive but was a case of ectopic pregnancy.

Fibromyoma of uterus was diagnosed in two cases of infertility in present study accounting for 5% of all infertility cases only this is comparable to the result of Duignan et al (1972) who found 3% incidence of fibromyoma in primary infertility cases. Incidence reported by Gupta S. et al (1984) is 3.2% & by Prabhu et al (1988) 2.76%.

Endometriosis was found in two case of primary infertility. No Endometriosis was seen in secondary Infertility group this gives an incidence of 5% in patients of primary infertility & overall incidence of 5%.

This is comparable to the 5.1% incidence in primary infertility cases & 2.63% incidence in secondary infertility cases as reported by Verma et al (1978) incidence of Endometriosis was found to be 1.6% by Gupta S. et al (1984). While 2.1% incidence in primary infertility group was observed by Prabhu et al (1988). Prabhu et al did not report Endometriosis in secondary infertility cases study of Chakraborti & Kole (1990) revealed on incidence of 5.9% Cystic ovaries were observed on 4 cases of infertility accounting for 10%. This is comparable to the results of Gupta S. et al (1984) who reported an incidence of 11.6%. Deshmukh (1986) 3.9% and Chakraborti. Kole (1990) who reported it to be 8.30%. Endometrial biopsy had revealed tubercular Endometritis in 2 of these 3 cases &

in all these 3 cases chromotubation was not done to avoid flaring up of infection.

Hypoplastic uterus was found in 2 cases of primary infertility cases in our study accounting of overall incidence of 5%.

This is comparable to the results of Prabhu et al (1988) who found 1.1% incidence in primary infertility group & none in secondary infertility group comparable also to the results of Bhinde AG (1990) who found 1.8% incidence of hypo plastic uterus in all the infertility cases.

Amenorrhoea –

10 patients with a diagnosis of primary Amenorrhoea were included in present series.

Out of all the patients presenting with primary Amenorrhoea 80% were in between 18 to 20 yrs of age 20% had poorly developed secondary sex characters. In 40% cases the vagina was conalised.

In 50% it was partially conalised while in 10% it was non conalised thus 60% cases of primary Amenorrhoea presented with Mullarian agenesis was present in 50% cases out of these in 20% case ovarian tissue was seen. Small nodular uterus with tubes & normal ovaries tissue was present in 10% cases.

Patients who presented with conalised vagina (40%) had normal looking pelvic organs in 20% cases hypoplastic uterus with well developed tubes & ovaries in 10% cases & Bilateral polycystic ovaries in 10% cases.

Thus laparoscopy helped to establish a diagnosis in cases of primary Amenorrhoea. Steptoe (1965) could establish a diagnosis in all the 4 cases of primary Amenorrhoea by laparoscopy diagnosis in cases of primary Amenorrhoea by laparoscopy has been achieved by various workers Duignan et al 91972) Semchyshyn et al (1976) Verma et al (1978), Gupta B et al (1986).

In our study incomplete development of mullerian tract was the main pathology detected. This is in parallel with the findings of Gupta B et al 91986) Sholapurkar ML 91986) Sud et al (1987) Prabhu et al (1988).

SUMMARY & CONCLUSIONS

SUMMARY AND CONCLUSION

1. Diagnostic laparoscopy was carried out in 50 patients selected from the gynaecological out patients department and admitted in the indoor patient of the department of the obstetrics and Gynaecology, M.L.B. Medical College hospital, Jhansi.
2. Commonest indicator of performing laparoscopy was primary infertility.
3. Out of 50 patients 40 patients were of primary infertility & 10 patients were of primary Amenorrhoea.
4. It was seen that in 30% patients of primary infertility had normal looking pelvic organs. No pathology was detected.
5. On performing diagnostic laparoscopy in primary infertility most common finding was tubal block detected in 42.5% of patient.
6. Tubal block diagnosed at many times by hysterosalpingography was not present at laparoscopy so hysterosalpingography gave a false positive rate of.
7. The next most common factor behind primary infertility was pelvic adhesions (22.5)

8. Cystic ovarie was not an uncommon finding in cases of primary infertility and it was found in 10% cases.

9. Genital tuberculosis was found in 5% case of infertility. The findings included thick and beaded tubes, dense adhesions to the omentum and gut and presence of white caseaus flakes and tubercles on the surface of tubes.

10. Uterine fibromyoma were found in 5% cases.

11. Endometriosis accounted for 5% of total cases studied.

12. Hypoplastic uterus detected in 5% case also.

13. In 10 cases of primary Amenorrhoea laparoscopy was performed.

14. The Commonest cause which was responsible for primary Amenorrhoea detected to be incomplete development of Mullerian tract.

15. However second most common cause found responsible for primary Amenorrhoea in study group was ovarian agenesis.

From present study it is concluded that diagnostic laparoscopy is a simple and safe procedure. Laparoscopic visualization of pelvic organs can greatly increase the preciseness of gynaecological diagnosis.

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MASTER CHARTS

PATIENTS OF PRIMARY INFERTILITY

			INVESTIGATION				*LAPAROSCOPIC FINDINGS*						
S.N.	AGE	DURATON OF INFERTILITY	MENSTRUAL PATTERN	SEMINO GRAM	ENDOMETRIAL BIOPSY	HYSTEROSAL PINGOGRAPHY	P/S Ex	P/V Ex	UTERUS	OVARIES	TUBES	CHROMO TUBATION	ADHESION
1.	28	5	N	N	Secretary	B/L Block	NAD	NAD	N	N	N	positive	Nil
2.	30	9	N	N	,,	..	,,	,,	,,	,,	Not visualised	on left side negative positive	Dense B/L Peritubal adhesion
3.	22	3	N	N	,,	B/L patent	,,	,,	,,	,,	,,	negative	Nil
4.	22	4	N	N	,,	,,	,,	,,	,,	,,	,,	positive	Nil
5.	24	10	N	N	,,	B/L patent	,,	,,	,,	,,	,,	positive	Left pertibal adhesion
6.	22	3	Oligo Ameorrhoea	N	,,	B/L patent	small Cx with With pin-hole OS	Ut-AV Hypo-plastic Fx clear	Hypoplastic	,,	N	positive	Nil
7.	21	4	Menorrhagia	N	,,	B/L Block	Cx with pinhole OS	plastic Fx clear	,, ,,	,,	N	negative	Nil
8.	25	3	N	N	,,	B/L Block	NAD	NAD	,,	,,	,,	positive	Nil
9.	25	10	N	N	,,	B/L patent	,,	,,	,,	,,	,,	positive	B/L peritubal adhesion
10.	23	1	N	N	,,	B/L patent	,,	,,	,,	,,	,,	Rt patent Lt block	Nil
11.	35	20	Dysmenorrhoea	N	,,	B/L Block	,,	,,	,,	,,	,,	positive	Nil
12.	26	5	oligomenorrhoea	N	,,	B/L patent	,,	,,	,,	,,	,,	negative	Nil
13.	23	2	N	N	,,	B/L Block	,,	,,	,,	,,	,,	negative	Nil
14.	25	3	N	N	,,	,,	,,	UT-RV, NS Mass– 3"x3" felt in it Fx	,,	Rt ovary N left cystic	,,	negative	Nil
15.	33	17	Secondary Amenorrhoea	N	Tubercular Endometritis	Not done	,,	,,	,,	N	,,	positive	Nil
16	30	9	Dysmenorrhoea	N	Secretory	Rt Block Lt patent	,,	,,	,,	,,	,,	not done	present post pouch full
17.	35	12	aligomenorrhoea	N	Non secretory	Not done	,,	NAD	,,	,,	,,	Rt block Lt patent	Nil

18.	25	6	N	N	Secretory	B/L Block	,,	UT- RV NS Mobility Restricted Fx Tender	,,	Not seen clearly	both tubes slighlly thick beaded caseaous Tubercles & white Flakes seen on surface of tube	Not done	Dense peri ovarian adhesions present extending from fimbria to lateral
19.	34	10	,,	N	,,	,,	,,	NAD	,,	Normal		nagative	Nil
20.	35	12	,,	N	,,	,,	,,	,,	,,	,,	N	negative	pertitubal adhesion
21.	28	8	,,	N	,,	B/L Patent	,,	,,	,,	,,	Rt thickened Lt - N	negative	Nil
22.	30	9	oligomenorrhoea	N	,,	Rt Block Lt patent	,,	NAD	,,	,,	N	positive	Nil
23.	30	9	N	N	,,	B/L Patent	,,	,,	,,	,,	N	positive	Nil
24.	25	10	,,	N	,,	B/L Patent	,,	,,	,,	,,	N	positive	Nil
25.	28	3½	N	N	,,	B/L Patent	,,	,,	NAD	Rt N Lt Cystic	N	,,	Nil
26.	26	6	N	N	,,	,,	,,	Ut-RV NS LT Fx thick-ened	N	Normal	N	,,	Nil
27.	28	11	Dysmenorrhoea	N	,,	,,	,,	NAD	NAD	,,	N	,,	Nil
28.	31	5	N	N	,,	,,	NAD	,,	,,	,,	N	,,	present
29.	27	25	Menorrhagea Dysmenrrohoea	N	,,	B/L Patent	,,	,,	,,	Small sub serous fibroid in fundal	N	,,	Nil
										Region endomet- rosis present on uterus ut sac lig leg	N	,,	Nil
30.	24	3	N	N	,,	,,	,,	,,	,,	N	N	,,	Nil
31.	23	3	N	N	Secretary	B/L Patent	,,	,,	,,	N	N	,,	Nil
32.	27	6	Menorrhagea	N	,,	B/L Block	,,	,,	,,	Let RV NS Fx thickened	N	Rt cyst 3"x3" cyst 3½x3	Nil ½ Lt cyst 3½x3½
33.	24	2	oligomennohoea	N	,,	B/L Patent	Ut Small	,,	,,	Hypoplastic	N	N	Nil

34.	29	7	Sex Amenorrhoea	N	,,	B/L Block tubercular Salpingitis	hypoplastic fx clear	,,	Not seen clearly	N	tubercle seen on surface	Not done	adhesion present
35.	22	4	N	N	,,	B/L Block	,,	Ut-AV NS B/L To mass	N	Lt enlarged Rt enlarged Cystic	N	positive	Nil
36.	30	12	N	N	,,	B/L Block	,,	Ut Bulky RV Mobility Restricted	small fibroid on post well	N	N	positive	Nil
37.	39	16	Menorrhagea	N	,,	B/L Block	,,	NAD	N	N	N	positive	Nil
38.	21	2	N	N	,,	B/L Patent	,,	NAD	N	N	N	Both patent	Nil
39.	31	8	N	N	,,	B/L Block	,,	R/V NS	N	N	N	positive	Nil
40.	35	12	N	N	,,	B/L Block	,,	UT-NS Deviated to the Lt mobility Restricted	Not clearly seen	N	B/Lblock	negative	Nil

PRIMARY AMENORRHOEA

S No.	AGE (In years)	Secondary Sex Characters	Condition of Vagina	Clinical Examination	Laparoscopy
1.	20 years	Not well developed	Non Canalised	P/V Not possible uterus, tubes ovaries not felt	No uterus, no tubes, no ovaries tissue present
2.	20 years	Well developed	Canalised	Uterus, anteverted, normal size adnexa not palpable	Uterus normal, tubes and ovaries normal
3.	18 years	Not well developed	Partially Canalised	Uterus, tubes and ovaries not felt	No uterus, No tubes, No ovaries tissue
4.	25 years	Well developed	Canalised	Uterus anterorted normal size adnexa not palpable	Uterus tubes normal left ovary enlarged and cystic 3½ x 1½ Right ovary enlarged & cystic 3 cm
5.	21 years	Well developed	Canalised	Uterus antererted normal size adnexa not palpable	Uterus, tubes and ovaries normal
6.	18 years	Well developed	Partially Canalised	Uterus, tubes and ovaries not felt	No Uterus, No tubes ovaries tissue present
7.	19 years	Well developed	Canalised	Uterus hypoplastic, adnexa not palpable	Uterus hypoplastic tubes, ovaries normal
8.	19 years	Well developed	Partially Canalised	Uterus, tubes, ovaries not felt	No Uterus, No tubes, No ovaries tissue
9	18 years	Well developed	Partially Canalised	Uterus, tubes and ovaries not felt	No Uterus, No tubes Ovaries tissue present
10.	18 years	Well developed	Partially Canalised	Uterus, tubes and ovaries not felt	Small nodular uterus present tubes less developed, ovaries tissue normal